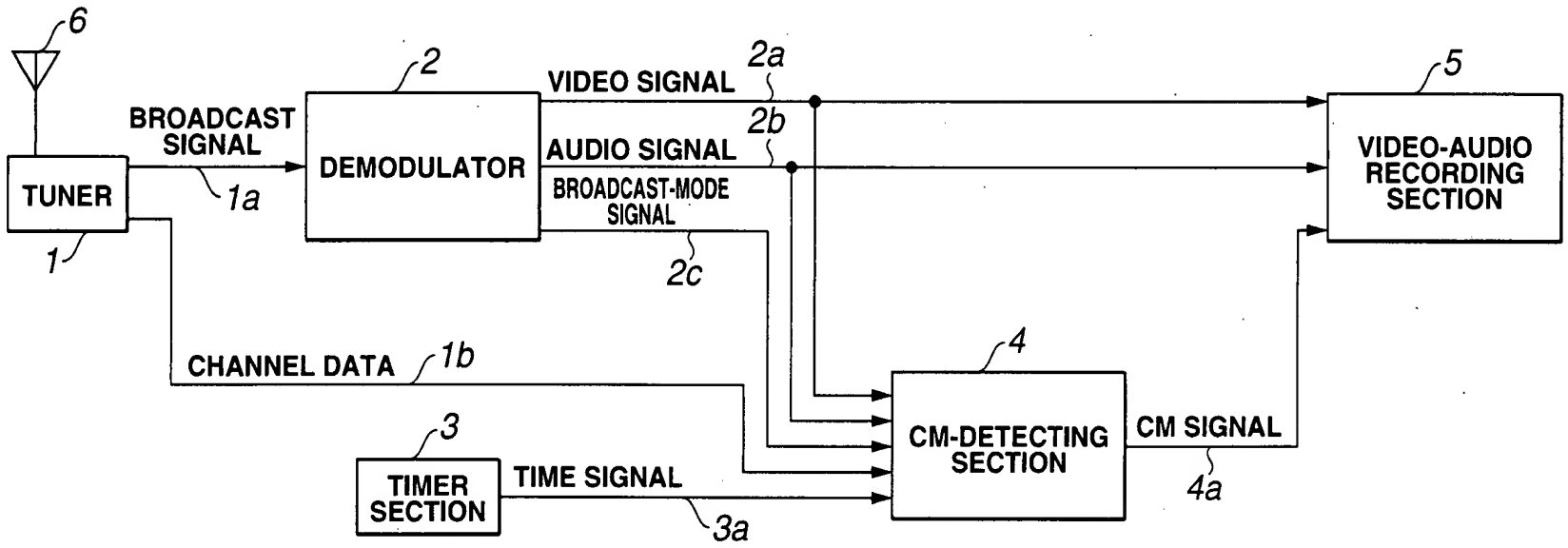
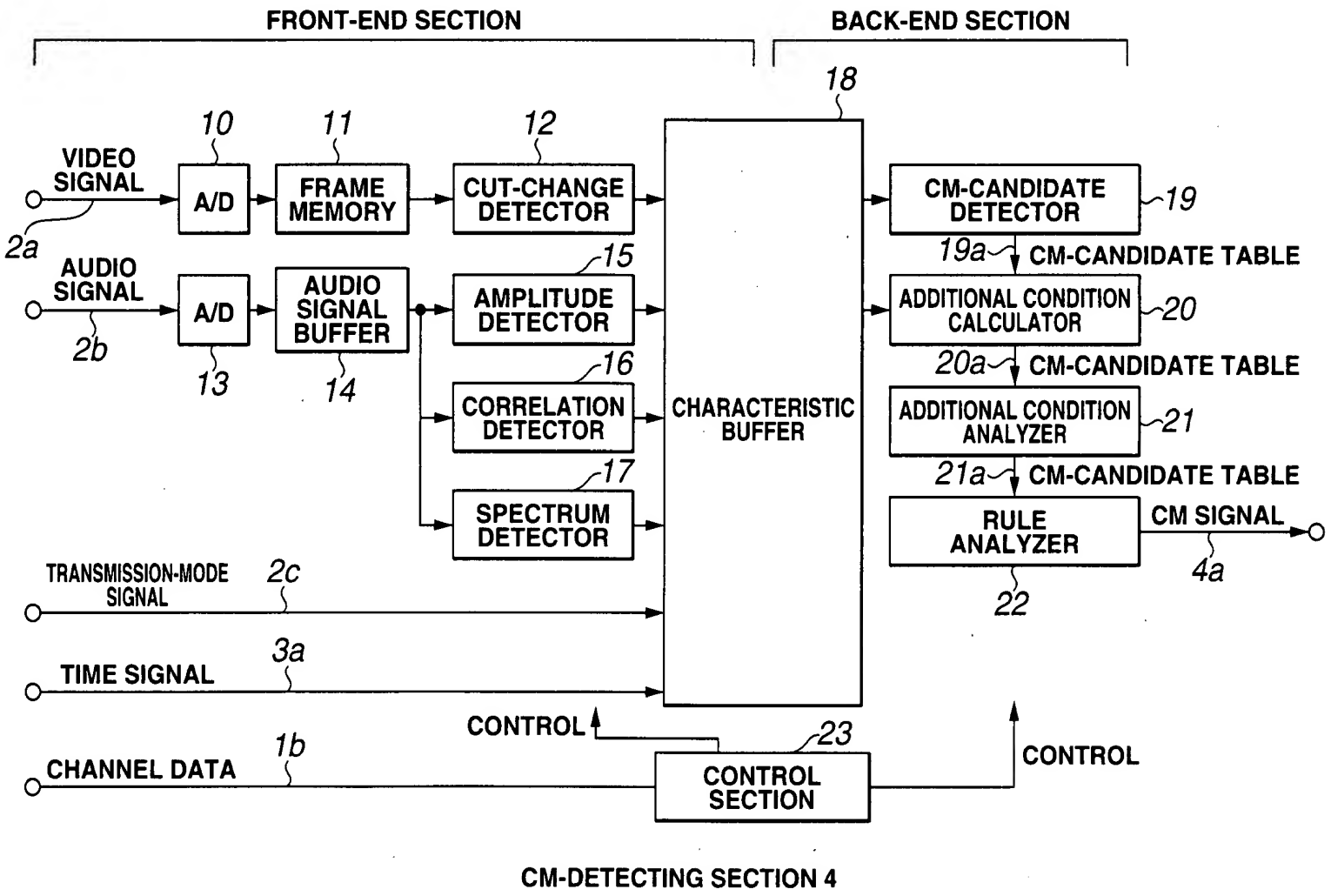


FIG.1



CM-DETECTING SECTION 4

FIG.2

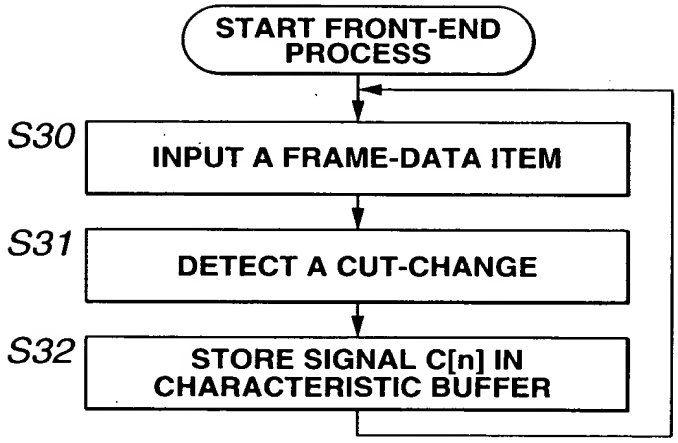


FIG.3

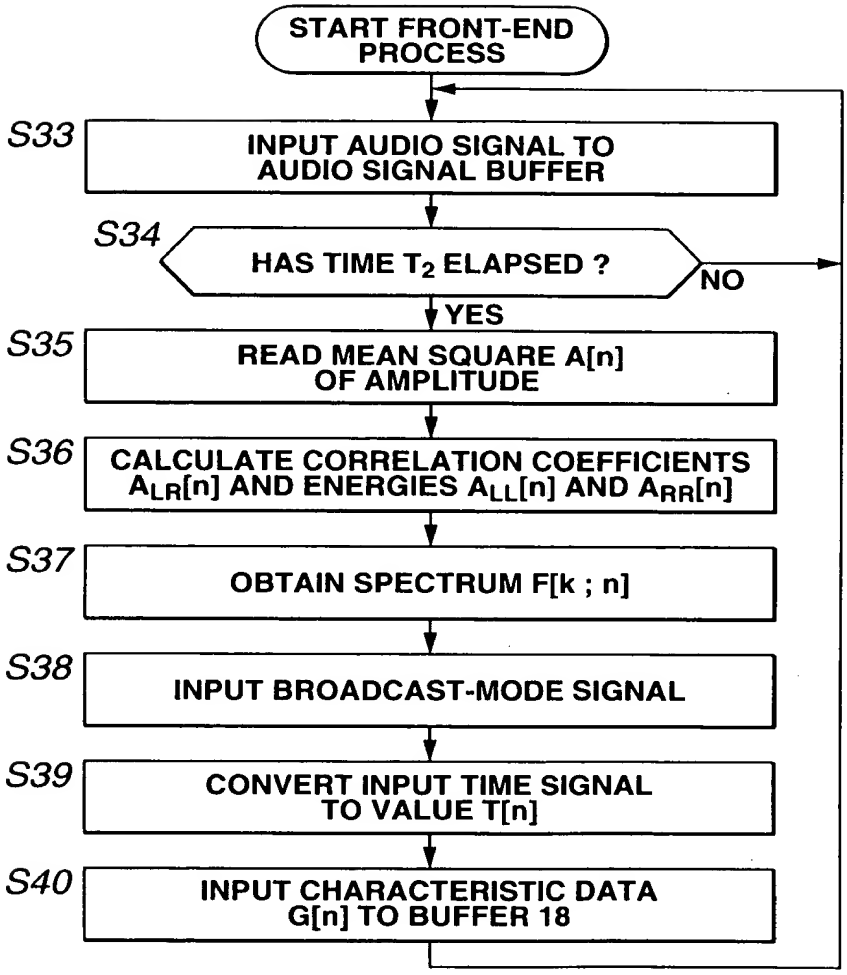


FIG.4

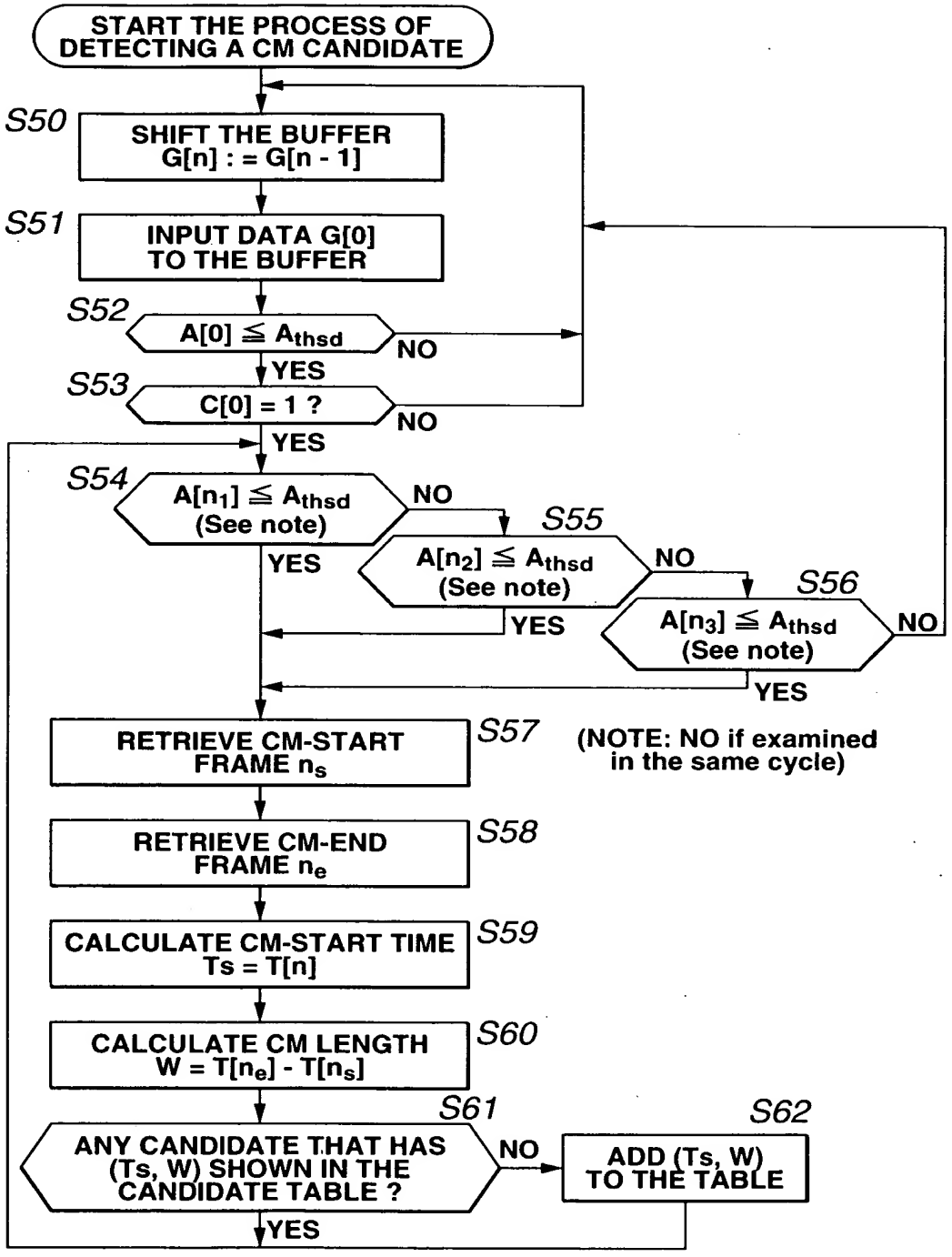


FIG.5

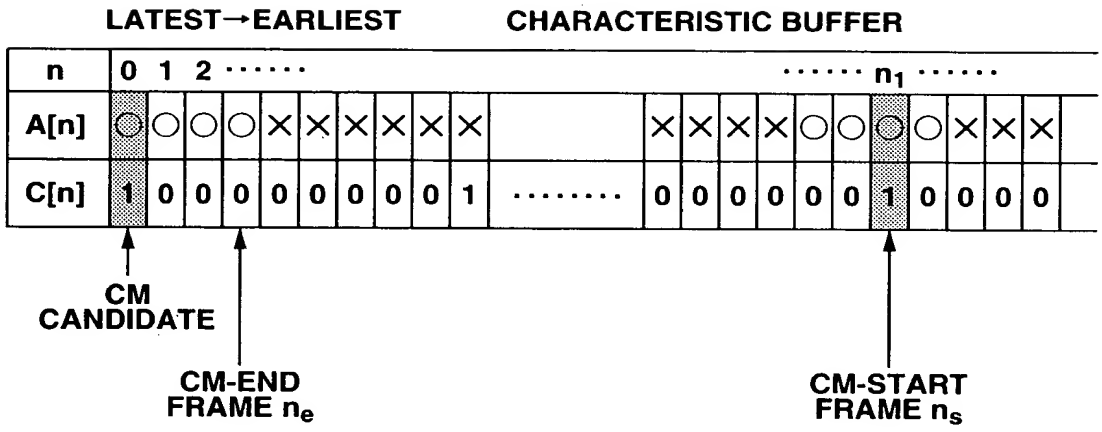


FIG.6

ITEM	SYMBOL	UNIT	EXAMPLE OF NECESSARY CONDITION (19a)	EXAMPLE OF NECESSARY CONDITION (20a)	EXAMPLE OF CONDITION DETERMINED (21a)
START TIME	Ts	hr, min., sec.	1:23'45	1:23'45	1:23'45
LENGTH (SOUND)	Tw	sec.	14.63	14.63	14.63
PRE-BREAK LENGTH	Q_1	ms	-	300.0	300.0
POST-BREAK LENGTH	Q_2	ms	-	300.0	300.0
MINIMUM WIDTH OF PRE-BREAK	Q_3	(See note)	-	0.00015	0.00015
MINIMUM WIDTH OF POST-BREAK	Q_4	(See note)	-	0.00020	0.00020
LEFT-RIGHT CORRELATION	Q_5	-	-	0.934	0.934
MEAN AMPLITUDE	Q_6	(See note)	-	0.010	0.010
NUMBER OF CUTS	Q_7	piece	-	9	9
BROADCAST MODE	Q_8	-	-	1	1
NUMBER OF ADJACENT CANDIDATES	Q_9	piece	-	2	2
ENERGY OF PRE-SPECTRUM DIFFERENCE	Q_{10}	-	-	0.41	0.41
ENERGY OF POST-SPECTRUM DIFFERENCE	Q_{11}	-	-	0.63	0.63
SCORE	R	-	-	-	1.80
SCORE	Z	-	-	-	1

*note: amount of the amplitude of the audio signal is represented as the proportion to the maximum amplitude

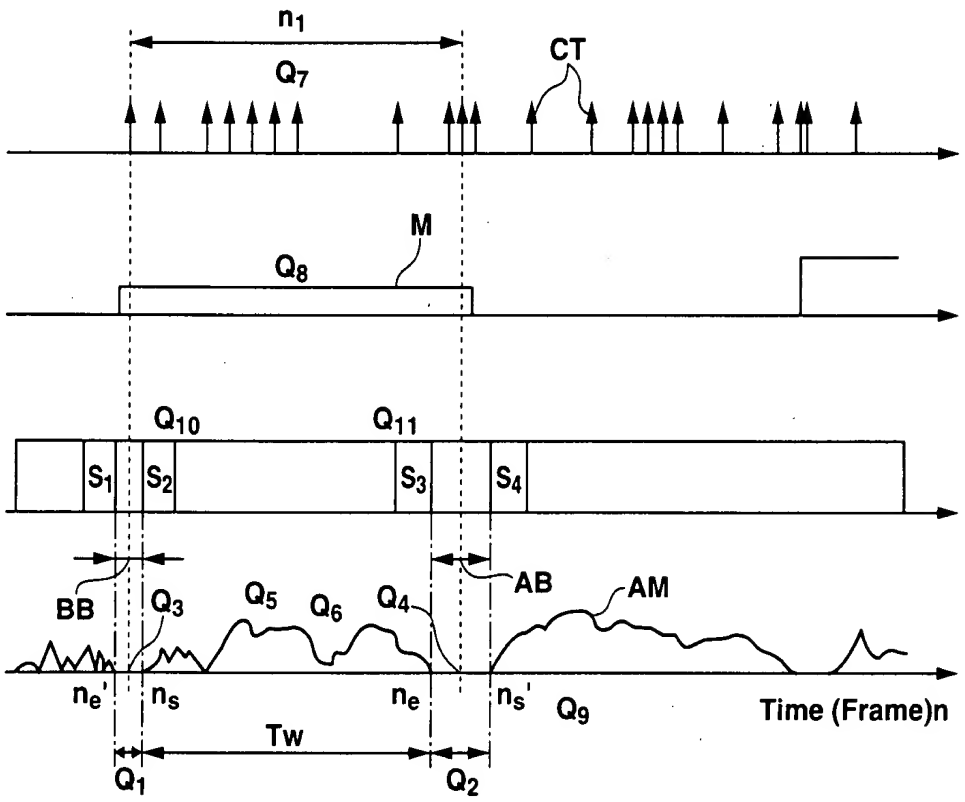
FIG.7

FIG.8A CUT-CHANGE C[n]

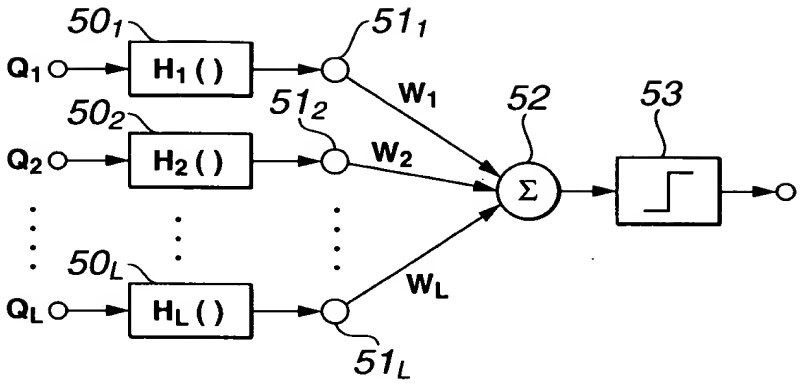
FIG.8B BROADCAST-MODE B[n]

FIG.8C SPECTRUM OF AUDIO SIGNAL S[k ; n]

FIG.8D MEAN SQUARE A[n] OF AMPLITUDE OF AUDIO SIGNAL



* USE $A_{LL}[n]$, $A_{RR}[n]$ AND $A_{LR}[n]$ TO CALCULATE Q_5



ADDITIONAL CONDITION ANALYZER 21

FIG.9

FIG.10A

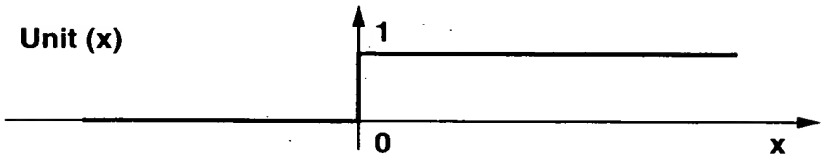


FIG.10B

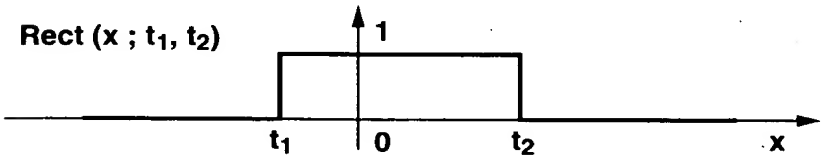
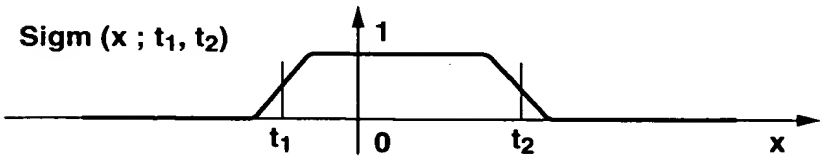


FIG.10C



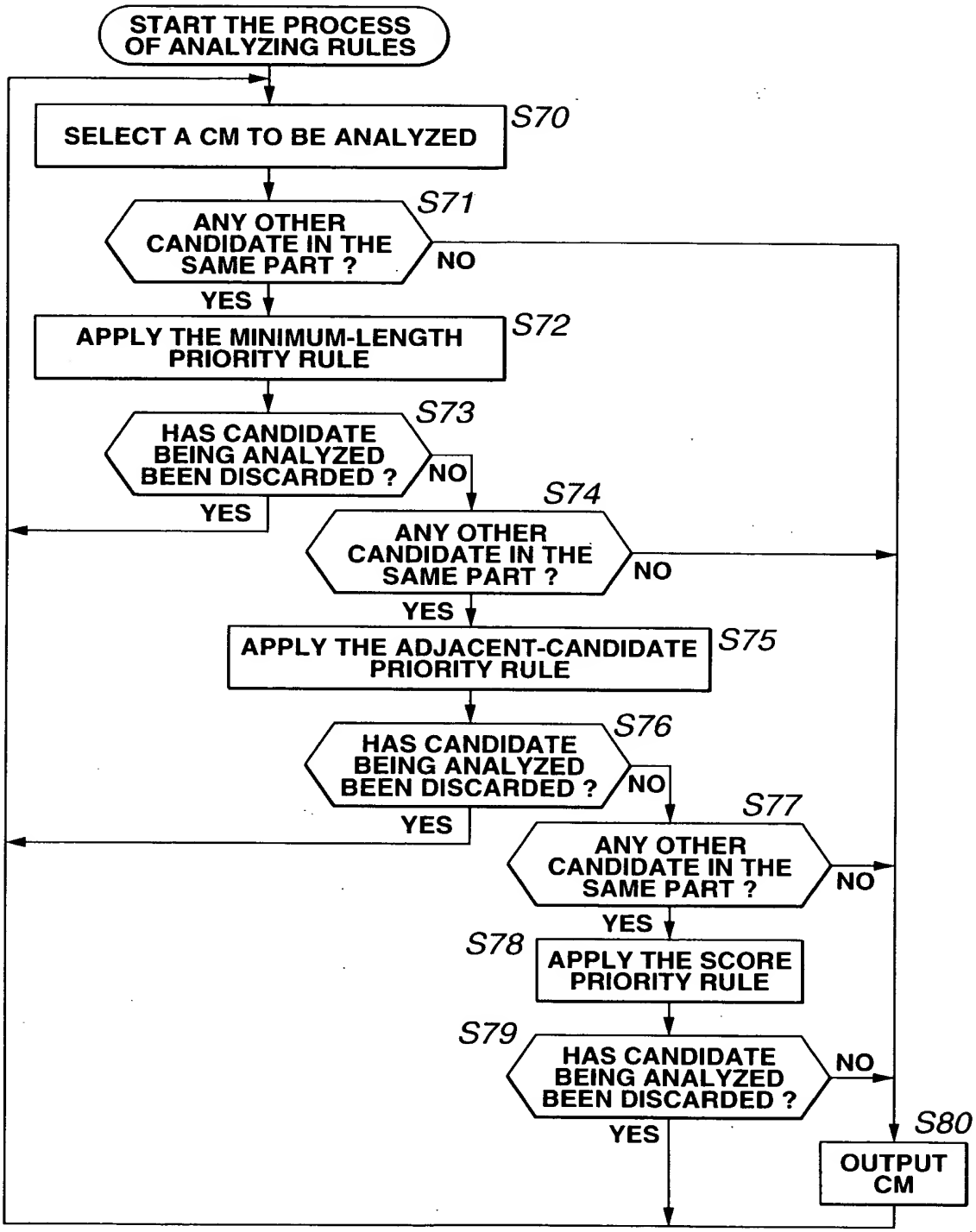

START THE PROCESS OF ANALYZING RULES
SELECT A CM TO BE ANALYZED
S70
ANY OTHER CANDIDATE IN THE SAME PART ?
S71
NO
YES
APPLY THE MINIMUM-LENGTH PRIORITY RULE
S72
HAS CANDIDATE BEING ANALYZED BEEN DISCARDED ?
S73
NO
YES
ANY OTHER CANDIDATE IN THE SAME PART ?
S74
NO
YES
APPLY THE ADJACENT-CANDIDATE PRIORITY RULE
S75
HAS CANDIDATE BEING ANALYZED BEEN DISCARDED ?
S76
NO
YES
ANY OTHER CANDIDATE IN THE SAME PART ?
S77
NO
YES
APPLY THE SCORE PRIORITY RULE
S78
HAS CANDIDATE BEING ANALYZED BEEN DISCARDED ?
S79
NO
YES
OUTPUT CM
S80

FIG.11

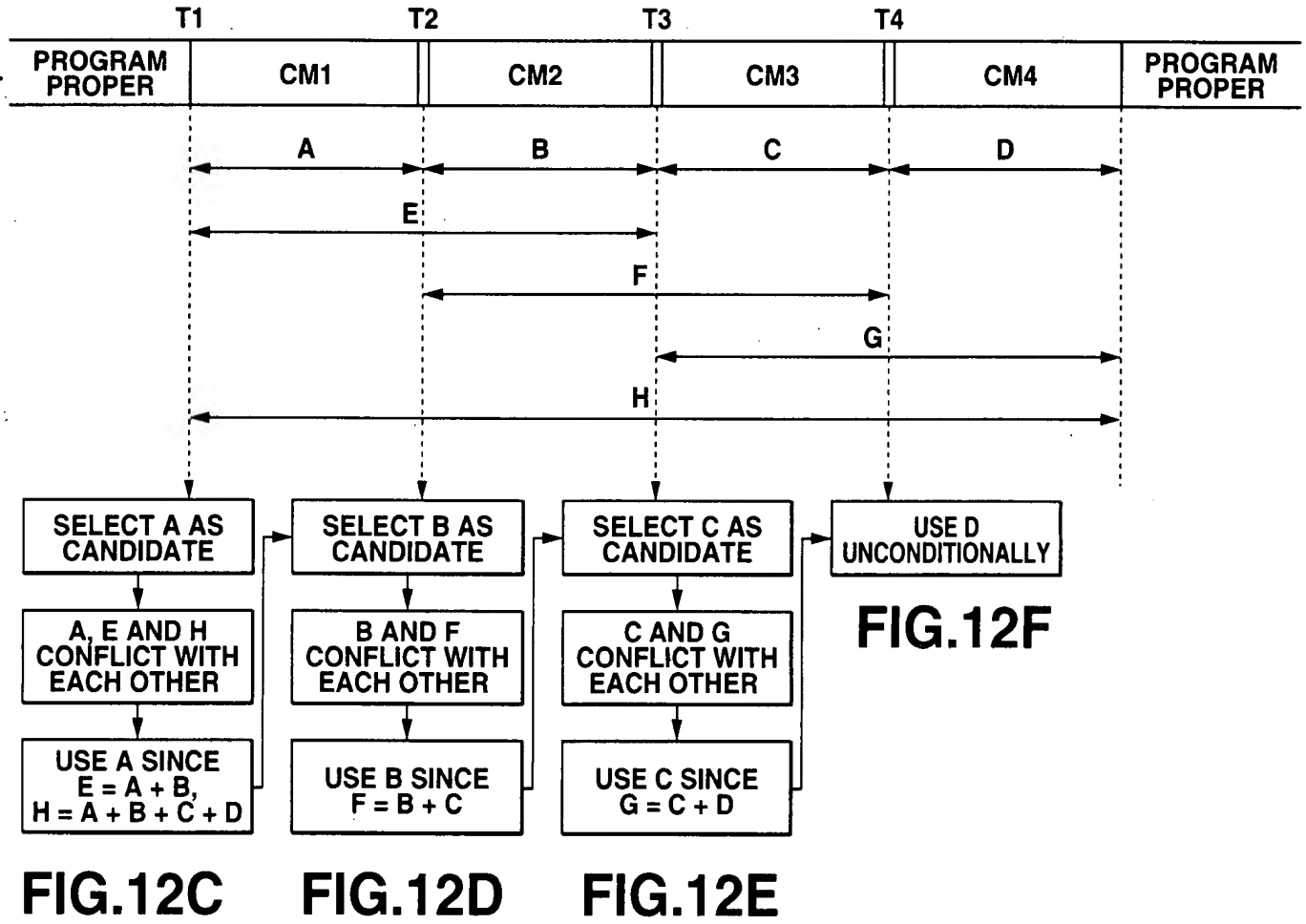


FIG.12A PROGRAM BROADCAST

FIG.12B LATEST CM CANDIDATE

FIG.12C FIG.12D FIG.12E

FIG.12F

MINIMUM-LENGTH PRIORITY RULE

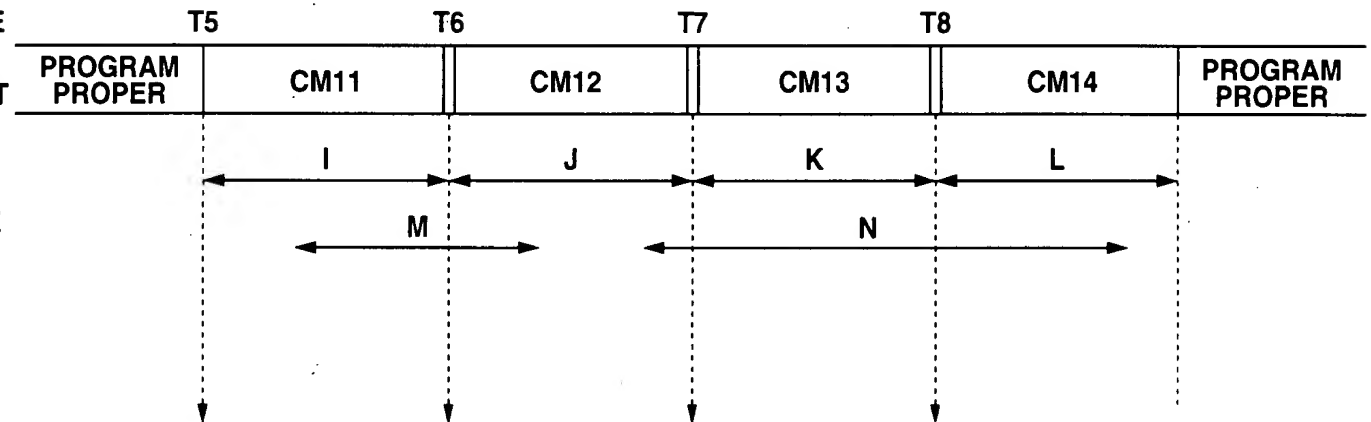


FIG.13A PROGRAM BROADCAST

FIG.13B LATEST CM CANDIDATE

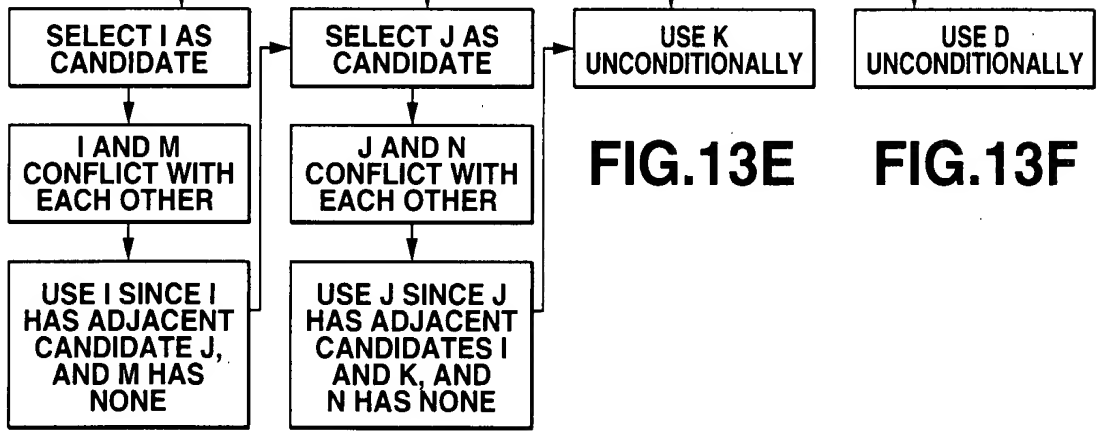


FIG.13C FIG.13D FIG.13E FIG.13F

ADJACENT-CANDIDATE PRIORITY RULE

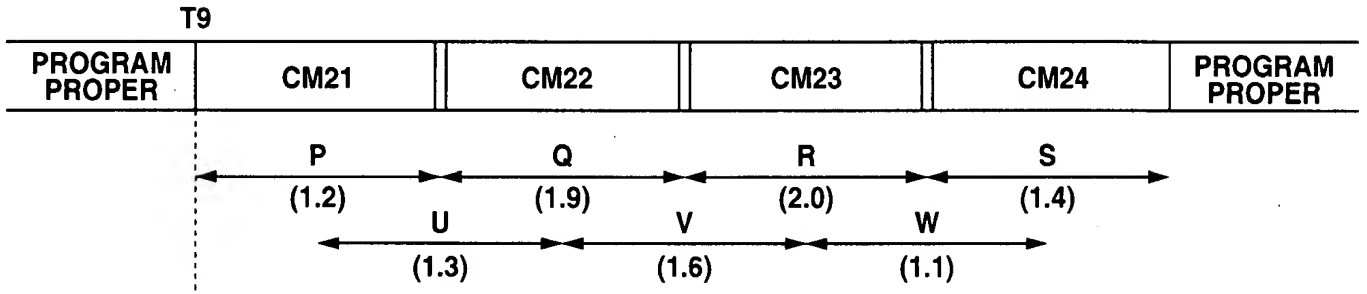


FIG.14A

FIG.14B LATEST CM CANDIDATE (SCORE)

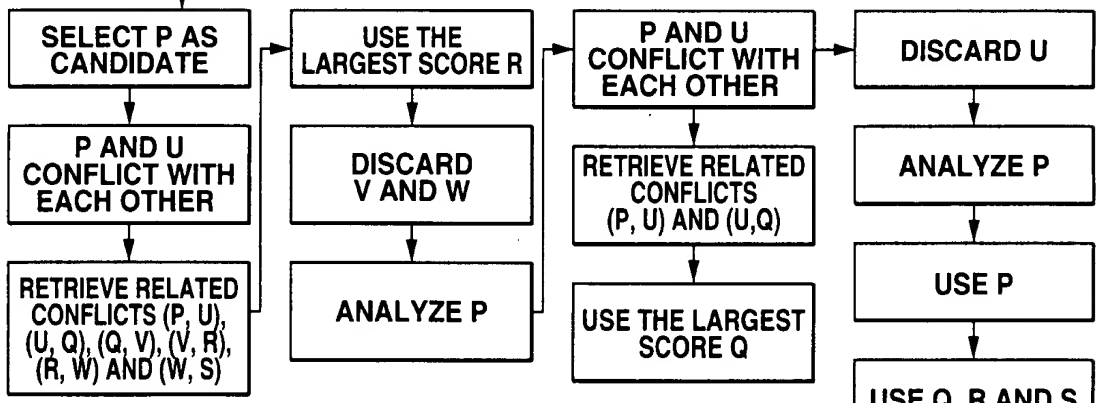


FIG.14C FIG.14D FIG.14E FIG.14F

SCORE PRIORITY RULE

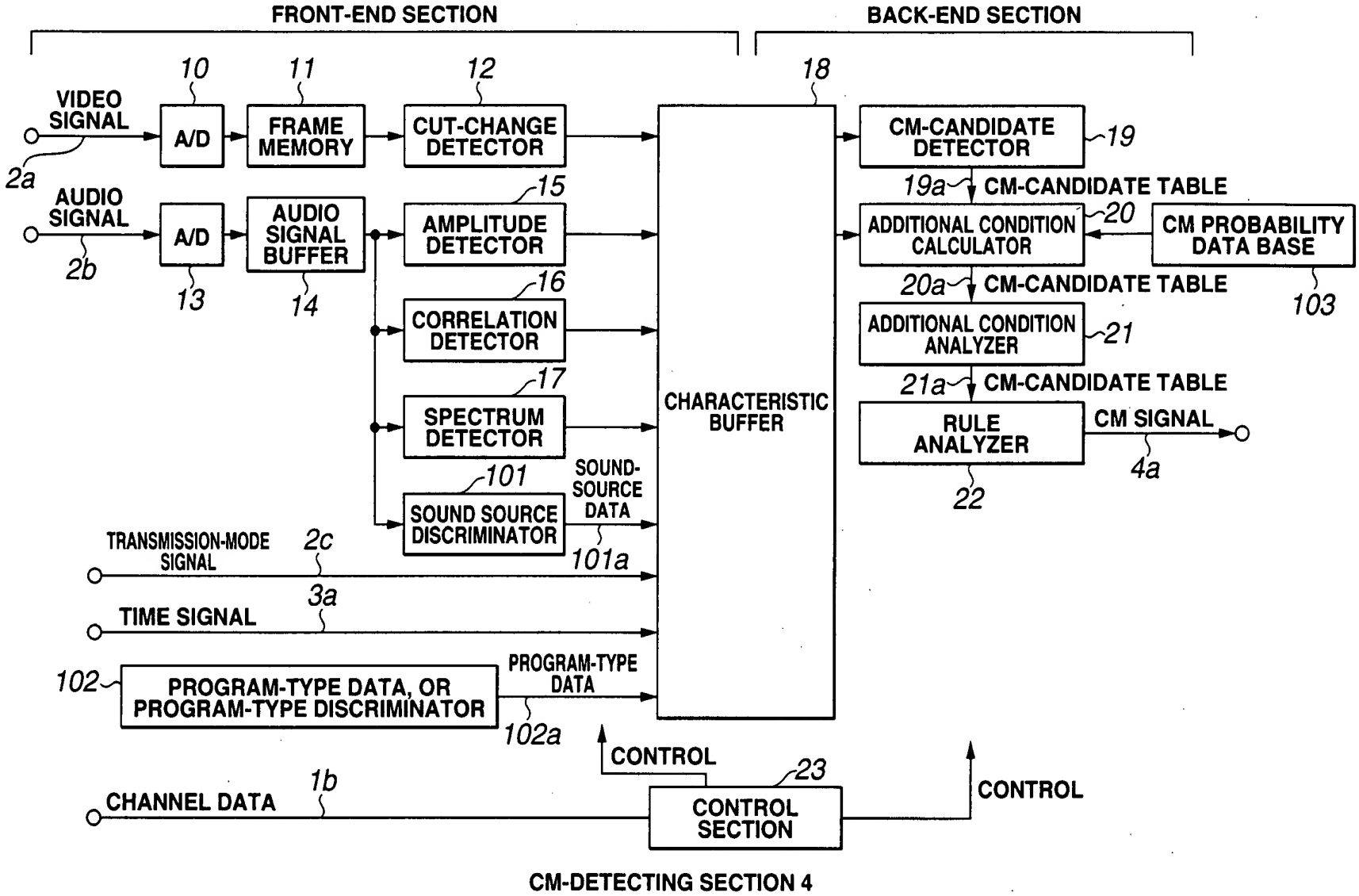


FIG.15

ITEM	SYMBOL	UNIT	EXAMPLE OF NECESSARY CONDITION (19a)	EXAMPLE OF ADDITIONAL CONDITION (20a)	EXAMPLE OF CONDITION DETERMINED (21a)
SOUND CONTAINED ?	Q_{12}	-	-	1	1
MUSIC CONTAINED ?	Q_{13}	-	-	1	1
PROBABILITY FOR TIME ZONE	Q_{14}	-	-	0.15	0.15
PROBABILITY FOR PROGRAM TYPE	Q_{15}	-	-	0.1	0.1

FIG.16

ITEM	SYMBOL	UNIT	EXAMPLE OF VALUE
NUMBER OF SMALL AMPLITUDES	Q_{16}	-	1
SMALL-AMPLITUDE PERIOD	Q_{17}	s	0.24
SIGNAL DISPERSION	Q_{18}	-	0.40

FIG.17

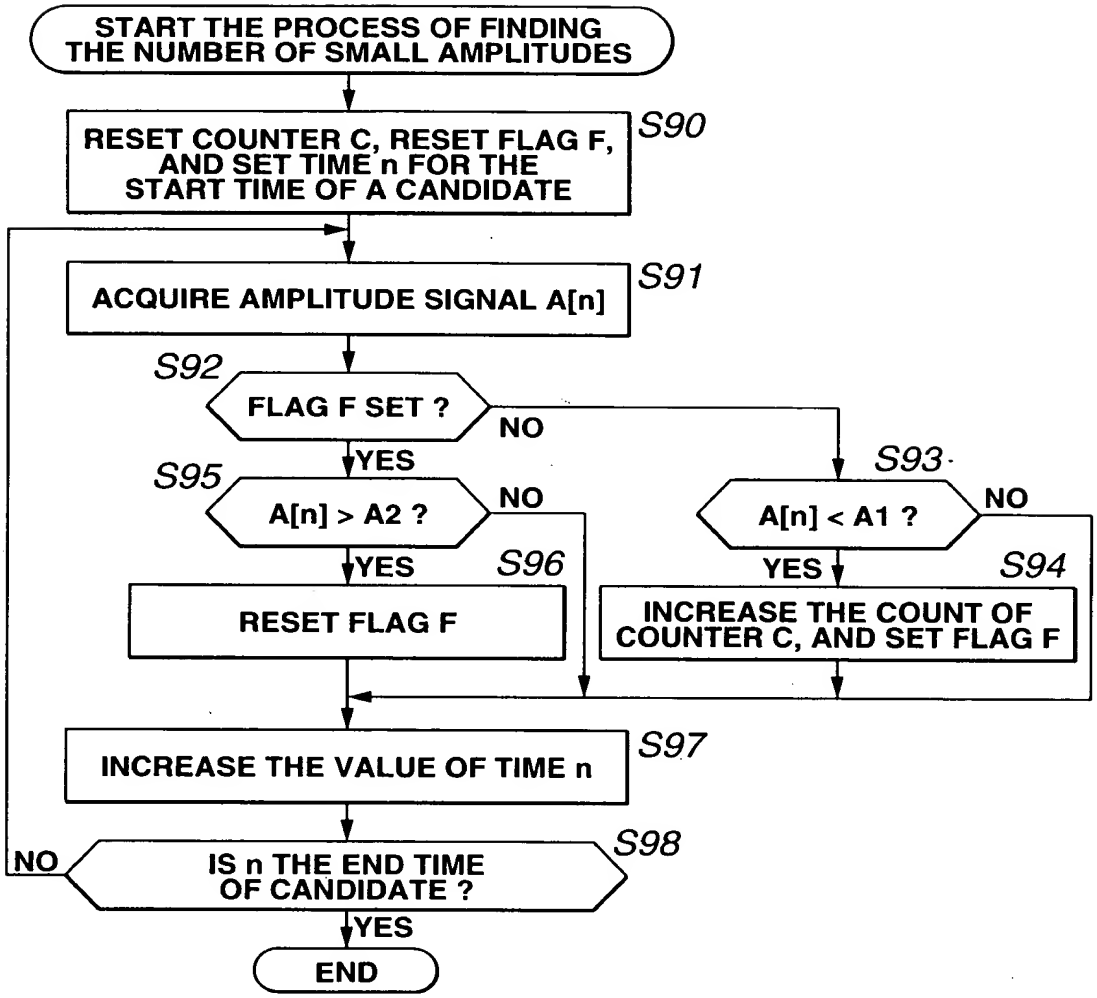
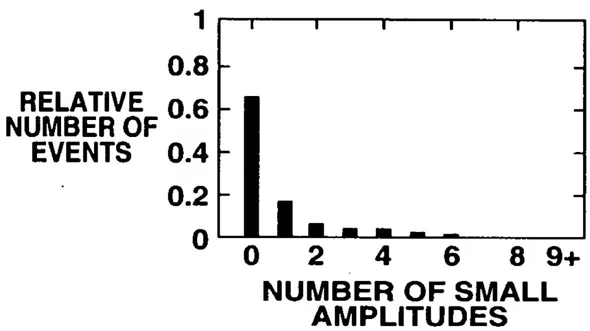
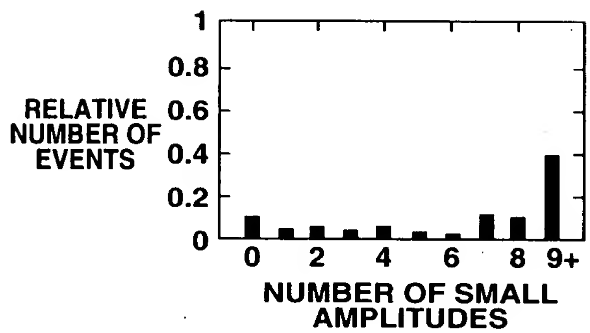


FIG.18



NUMBER OF SMALL AMPLITUDES (IN CM PART)

FIG.19A



NUMBER OF SMALL AMPLITUDES (IN NON-CM PART)

FIG.19B

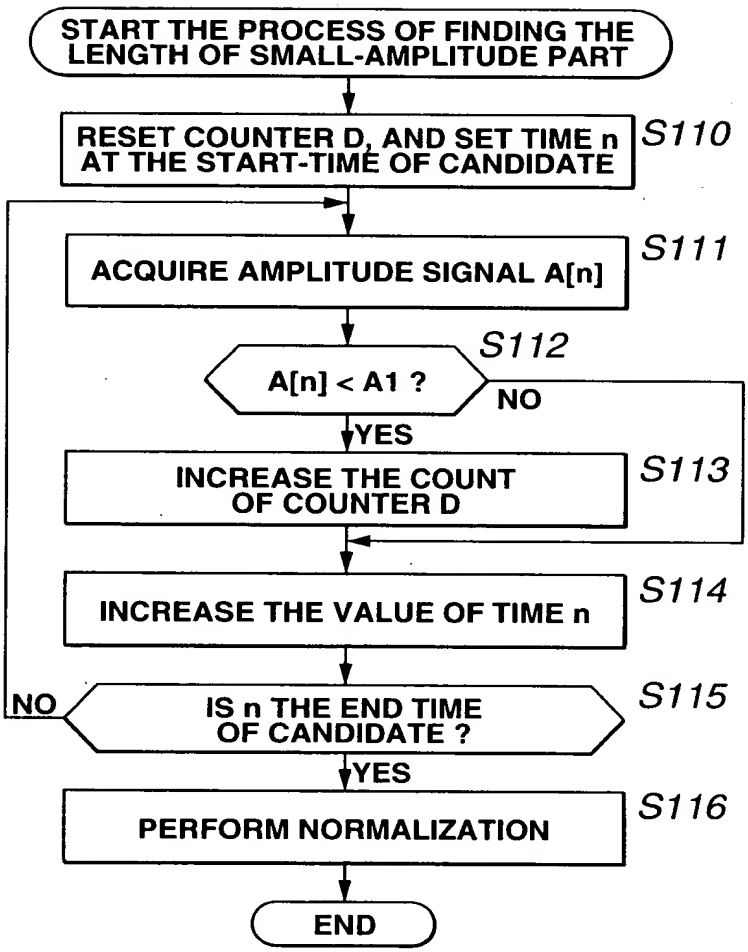


FIG.20

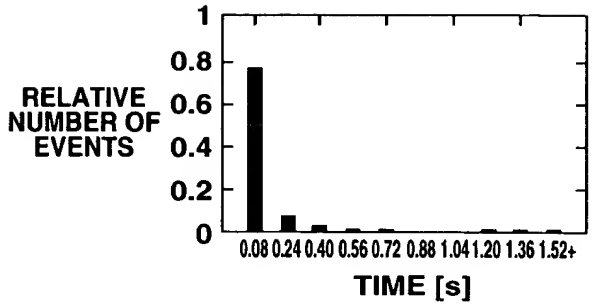


FIG.21A

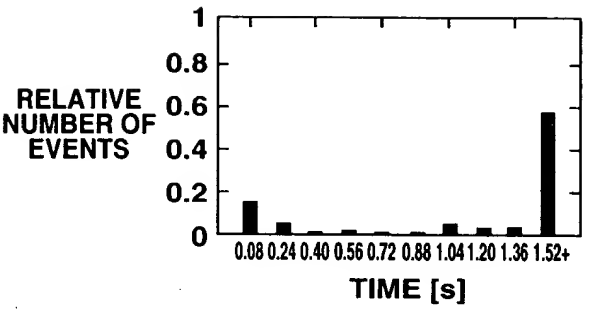


FIG.21B

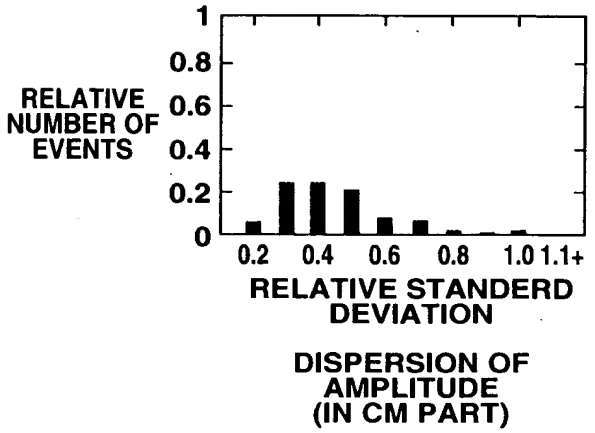


FIG.22A

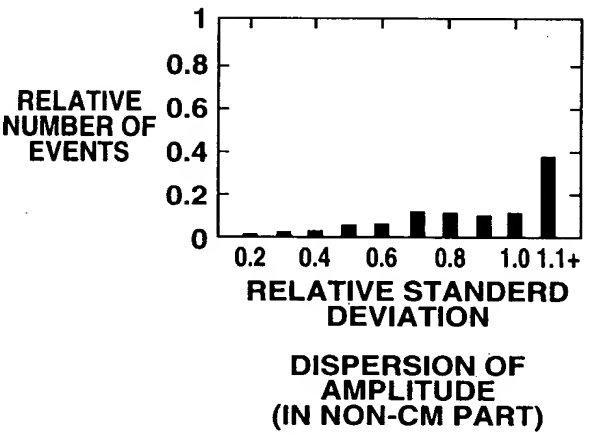


FIG.22B

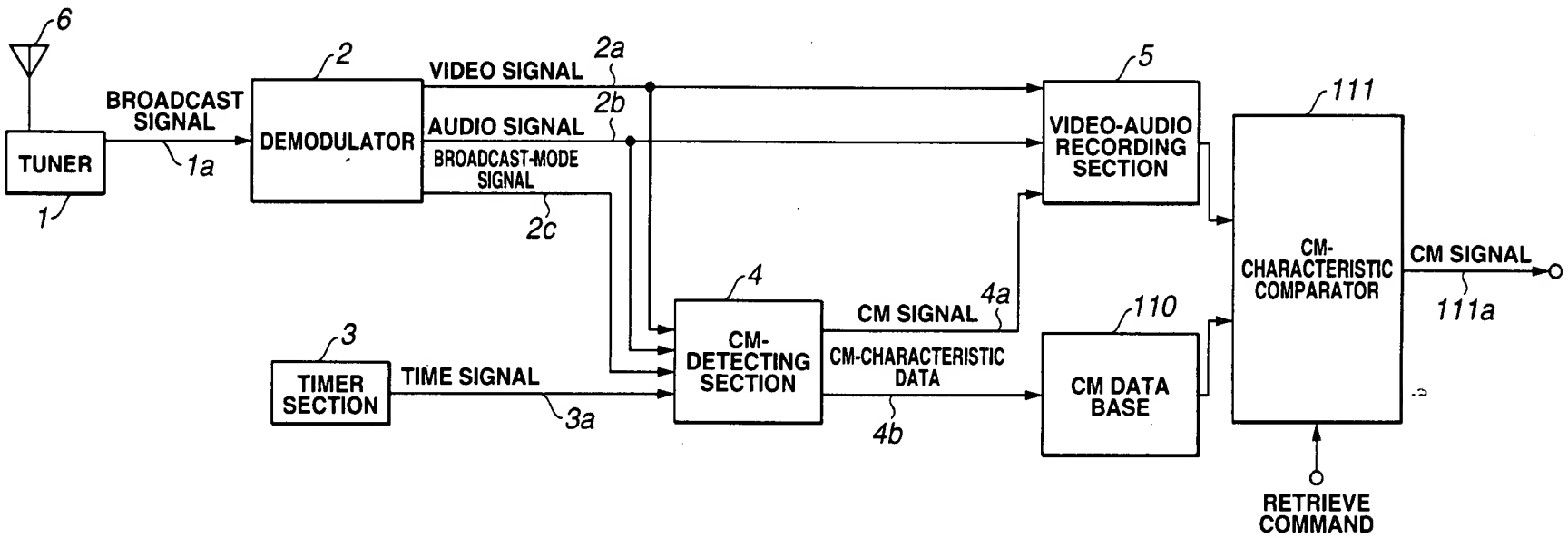

6
TUNER
1
BROADCAST SIGNAL
1a
DEMODULATOR
2
VIDEO SIGNAL
2a
AUDIO SIGNAL
2b
BROADCAST-MODE SIGNAL
2c
TIMER SECTION
3
TIME SIGNAL
3a
CM-DETECTING SECTION
4
CM SIGNAL
4a
CM-CHARACTERISTIC DATA
4b
VIDEO-AUDIO RECORDING SECTION
5
CM DATA BASE
110
CM-CHARACTERISTIC COMPARATOR
111
CM SIGNAL
111a
RETRIEVE COMMAND

FIG.23

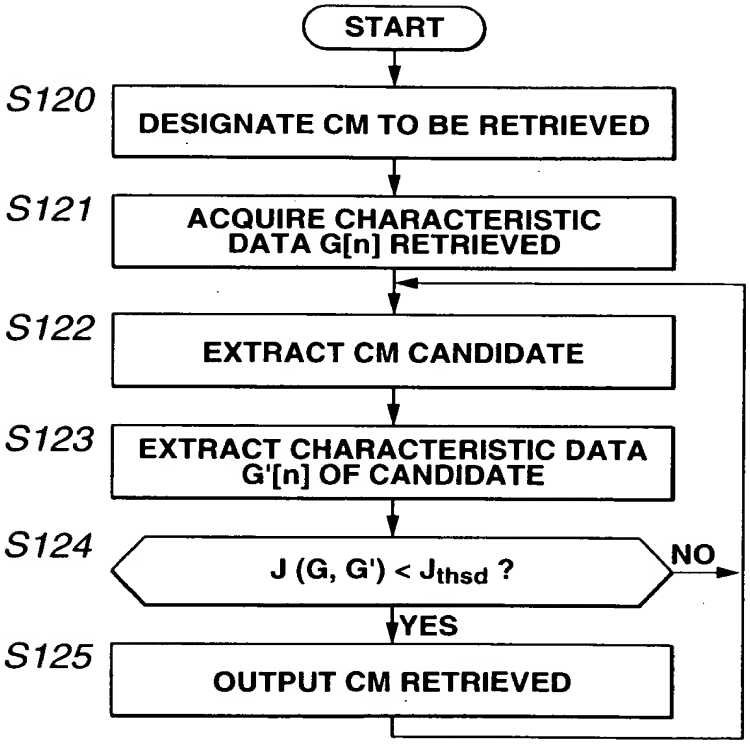

START
S120
DESIGNATE CM TO BE RETRIEVED
S121
ACQUIRE CHARACTERISTIC DATA G[n] RETRIEVED
S122
EXTRACT CM CANDIDATE
S123
EXTRACT CHARACTERISTIC DATA G'[n] OF CANDIDATE
S124
J (G, G') < Jthsd ?
NO
YES
S125
OUTPUT CM RETRIEVED

FIG.24

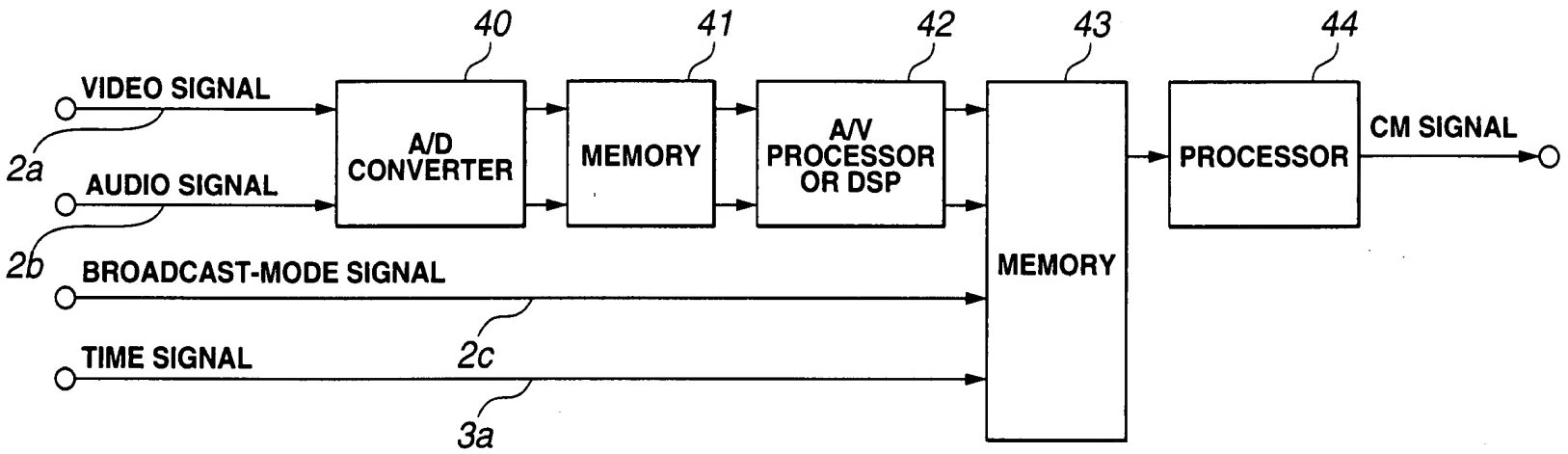

40
41
42
43
44
VIDEO SIGNAL
2a
AUDIO SIGNAL
2b
BROADCAST-MODE SIGNAL
TIME SIGNAL
2c
3a
A/D CONVERTER
MEMORY
A/V PROCESSOR OR DSP
MEMORY
PROCESSOR
CM SIGNAL

FIG.25